

NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

Friday, January 12, 2001

Vol. 26, No. 2



FROM THE
DIRECTOR

Bruce Tarter

Focus turns to challenges to the Lab's workforce

The Laboratory will be faced with a number of challenges in 2001. One of these challenges, and a major focus for me, will be the workforce, where we have seen a number of external and internal developments that have made all of our jobs more difficult. I'd like to discuss four major areas where our efforts will be focused throughout 2001.

Senior manager selections

Today there are six open senior manager positions: Deputy Director for Operations (DDO), Associate Directors for Biology and Biotechnology Research Program (BBRP), Physics and Advanced Technologies (PAT), Energy and Environment (E&E), and Computations, and Director for University Relations Program. In filling the DDO vacancy, I am considering some restructuring of the operations organizations and will finalize and post appropriately by the end of January. The remaining positions have selection committees that are in various stages of their processes.

At the outset I charged each committee — whose members were chosen to represent a broad spectrum of relevant Lab staff — to develop a nationally prominent, diverse and compelling pool of candidates. This requirement has lengthened the selection process but should improve the outcome. I am regularly meeting with each committee chair to track progress and, hopefully, we will have selections made for most positions by March.

Recruiting/retention

Externally, a robust economy fueling an increasingly competitive labor market is challenging the Lab. We are losing highly skilled people at a rate greater than anytime in our history and have had difficulty filling many critical positions. A number of large and successful high-tech companies have begun to move operations into the Livermore Valley, with consequences on the cost of local housing and traffic congestion that are felt by everyone.

Internally, we have made major changes in the way we do business, particularly in safety and security. While these changes will, over time, have positive impacts on the Lab, including a safer working environment and improved public confidence, they have put enormous stress on us in the near term as we struggle to meet the milestones that we set for the Lab and adapt to more stringent requirements. Several other factors have further stressed our employees, including poly-

See **DIRECTOR**, page 7

'Smart' way to detect cancer

By Anne M. Stark

PUBLIC AFFAIRS

The pain and anxiety women experience undergoing breast cancer tests and awaiting the results may soon be lessened thanks to a new, minimally invasive diagnostic tool that can instantly detect cancerous tissue.

Under a cooperative research and development agreement announced at the Lab Wednesday, Livermore has partnered with San Jose-based BioLuminate, Inc. to develop "Smart Probe," a tool for earlier, more accurate breast cancer detection that removes no tissue, and is expected to achieve accuracy levels comparable to surgical biopsies in detecting cancerous cells.

The BioLuminate "Smart Probe," smaller than the needle used in routine blood tests, is inserted into breast tissue after an initial screening indicates an area of concern. The probe looks for multiple known indicators of breast cancer, instantaneously providing physicians with information they can use to determine whether more invasive and costly tests are necessary. The results of the "Smart Probe" procedure are immediately available to patients, helping relieve anxiety.

"Let me quote a few numbers: 21, 460 surgeries happen on women's breasts every week in this country and they are not necessary. In that same week, we miss about 4,600 cancers and that's really significant," said Richard Hular, President and CEO of BioLuminate.

"The technology that Bioluminate has along with what Lawrence Livermore is adding to the equation will allow us to drive those numbers to zero. That's

See **CANCER**, page 8



JULIE KORHUMMEL/NEWSLINE

Karen Lauer, a research assistant for the Lab's Medical Technology Program, shows off the new 'Smart Probe,' a minimally invasive diagnostic tool that can instantly detect cancer.

Bright Light work offers ray of hope for diabetes patients

By Anne M. Stark

PUBLIC AFFAIRS OFFICE

WASHINGTON D.C.—When Lab physicist Tom Peyser found out his young daughter had diabetes, he wanted to work on a project that would make it easier for her to manage the disease.

And now Peyser, along with his co-researchers, have received a Department of Energy Bright Light award for their work on a biomechanical pancreas that will help diabetes patients monitor their glucose levels.

During a White House ceremony on Monday, the Department of Energy awarded the research team, led by physicist Stephen Lane along with Peyser and other physicists Chris

See **BRIGHT LIGHT**, page 8

A new look at microlensing

By Anne M. Stark

PUBLIC AFFAIRS

Through a Hubble Space Telescope analysis of stars that have undergone gravitational microlensing, astronomers have collected strong evidence that microlensing events are caused by compact dark matter in the halo of the Milky Way. The findings were presented Monday by Lab researchers

Cailin Nelson and Kem Cook on behalf of the Massive Compact Halo Objects (MACHO) collaboration during the annual meeting of the American Astronomical Society in San Diego.

Astronomers believe the dark matter in the Milky Way is distributed in a spherical halo of matter, which extends

See **MACHOS**, page 5

Scientists zero in on rapid stars

By Anne M. Stark

PUBLIC AFFAIRS

Astronomers have found 154 rapidly moving stars toward the center of our galaxy and our brightest neighboring galaxy. The findings were presented

Monday by Lab researcher Andrew J. Drake for the Massive Compact Halo Objects (MACHO) collaboration, during the annual meeting of the American Astronomical Society in San Diego.

See **STARS**, page 4



Reporting on
computer security
incidents
— Page 3



Safe driving
in hazardous
conditions
— Page 5



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Saturday
13

There will be a **scheduled power outage** from 7 a.m. to 2:30 p.m. in the following buildings: 311, 313, 313A, 313B, 314, 315, 316 and 329. Contact: Mark Cardoza, 3-0490.

Monday
15

The Lab is closed in honor of Martin Luther King, Jr. Day.

Wednesday
17

Applications for **National Physical Science Consortium (NPSC) students** are available for review in Bldg. 319, room 171 through Jan. 17. The NPSC is a coalition of leading universities, national laboratories, government agencies and private corporations that provide up to six years of fully funded graduate education in astronomy, materials science, chemistry, mathematical sciences, computer science, physics and geology. Contact: Harry Radousky, 2-4478, or Helen Robinson, 3-0633, for more information or Web access to student information.

A representative from **Fidelity Investments** will meet with employees today and Thursday. Fidelity Investments are available to UC's 403(b) participants in addition to the UC-managed investment funds. Appointments are required and may be scheduled by calling 1-800-642-7131. Be sure to specify you are employed at LLNL.

Thursday
18

"Depression: What Is It and What Can We Do About It?" will be the subject of a talk by Jacque Martin, clinical psychologist with LLNL Health Services Employee Assistance Program, at noon in the Bldg. 123 auditorium. She will explain the difference between after-the-holiday blues and being depressed. LLNL employees/LLNL contract employees and their families are invited to attend. Badges are not necessary for family members. Reservations are not required. Contact: Marnette Yeager, 2-1217.



The LLNL **Retirees Travel Slide Group** will meet Tuesday, Jan. 23, at 2 p.m. in the Livermore Library meeting room. John and Dolores Hiskes will present "Easter Island, Rio, and Cape Horn." Contact: 449-7262.

Former Lab employee and motivational speaker **Erna Grasz** will kick off this year's series of speakers presented by the Lab Women's Association. Her talk, "Dare to Be Different: True Leadership Happens at All Levels," will be held at noon Wednesday, Jan. 31, in the Bldg. 543 auditorium. Grasz is currently the vice president and general manager for the Automation Standards Division at KLA-Tencor, a global semiconductor company. Contact: Lara Daily, 2-6932.

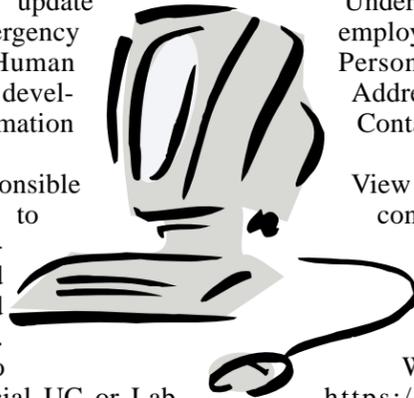
HR Web page offers employee data updating

Lab employees can now update their home address and emergency contact information via Human Resources' new Web page, developed by Administrative Information Systems.

"Employees are now responsible for utilizing this Web page to maintain their personal information," said Kathy Howard of HR's Employment and Benefits Services Division. "This data must be current to ensure timely receipt of official UC or Lab communications such as benefits statements, retirement plan balances, W-2 forms, etc."

The Web page can be accessed from the HR site at <http://www-hr/> or directly at <https://www-ais.llnl.gov/hr/>.

Access requires an official Lab Web ID and password (just like that used for time entry in LITE and other AIS applications).



Under the Employee Self Service menu, employees can choose either View Your Personnel Data, Update Your Home Address or Update Your Emergency Contacts.

If any of the information under View Your Personnel Data is incorrect, contact Employee Records at 2-9534 for assistance. This new process replaces the old Personal Profile record correction process.

Employees without an official Web ID and password can go to https://www-ais.llnl.gov/llnl_only/docs/menu/ to set up an account.

If you do not have access to the Internet, contact your department for assistance.

Information displayed under View Your Personnel Data is defined in the HR Data Glossary in the Help section of the main menu.

For problems or questions concerning this Website, contact Kathy Howard at 2-0814.

Travel slide show schedule set for next six months

By Bob Becker

LLNL RETIREE

I hope that all retirees had a happy holiday season and that the new year will be a good one.

The retirees are having their dinner dance at Springtown on Friday, Jan. 19. This is the annual Installation Dinner Dance and is always a fun affair for the attendees.

I don't think that I told you that I heard from **Alan Mode** (Chemistry), who lives in Pleasanton and recently retired. He was in hot water with his wife because he missed the last dinner dance. Don't let this happen to you.

The travel slide shows scheduled the first six months of the year include:

- Jan. 23: "Easter Island, Rio and Cape Horn," **Dolores and John Hiskes**.
- Feb. 27: "Driving Through Portugal," **Richard Hasbrouck**.
- March 27: "Bali Scenery and Hindu Temples," **Margo and Arne Kirkewoog**.

- April 24: "Glaciers, Geysers and Goblins," **Bob and Juanita Berlo**.

- May 22: "Diving Down to the 'Frolic'," **Norman Thomas**.

- June 26: "Cruising Russian Waters," **Margaret and Jim Tracy**.

These popular shows are held at the Livermore Library on the fourth Tuesday at 2 p.m. Put them on your new calendar.

Wally Samuelson (Internal Audit) had lunch with **Bill Harford** (Business manager) and indicated that Bill was fine and still playing a lot of golf. Bill lives in Danville. His e-mail is wharford@aol.com

The last several years I have encouraged retirees to send me copies of their Christmas letters, which have proven to be a great source for this column. Please mail your letters to Bob Becker, 1690 Frederick Michael Way, Livermore, CA 94550 925-447-3867 or rcbecker@aol.com.

The column can only continue with your cooperation in sending me news. I'd love to hear from you.

RETIREMENTS

Marv Smith

After 23 years of service, Marvin Smith, manager of the Supplier Management and Business Affirmative Action Office (SM/BAAO) is retiring.

A retirement dinner will be held for him on Friday, Feb. 2, at the Four Points Sheraton Hotel in Pleasanton.

For more information or to RSVP, contact Janet Adams at 3-2791 or adams5@llnl.gov.

Dave Trimble

Dave Trimble, lead senior technologist in the Beam Research Program, is retiring this month after 29 years of service.

A retirement lunch is scheduled for Friday, Jan. 26, from 1-4 p.m. at Beeb's in Livermore. Cost of the luncheon is \$20 per person.

Reservations and payments must be received by Wednesday, Jan. 17. For more information or to RSVP, contact Marlene Leon at 4-5440 or leon7@llnl.gov.

Newsline

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AROUND THE LAB

New requirements for reporting computer security incidents

In keeping with our Computer Security Policy Communication Plan, I am announcing a change to the reporting requirement for computer security incidents. While the change is minor, this is a good opportunity to remind Laboratory employees of their responsibilities in this area.

I want each employee to be aware that you represent our first line of defense against threats to the security of the computing resources used by your Laboratory organization. Timely reporting of actual or suspected computer security incidents is one of the most important steps in that defense. A computer security "incident" is any event that adversely affects a computer system, leading to: unauthorized access; waste, fraud, or abuse; damage or loss of software, data or peripherals; or a hardware or software vulnerability that could lead to any of the above.

These kinds of incidents could be caused by



CIO UPDATE

BY DAVE COOPER

viruses or malicious code, procedural failures or improper acts (like putting classified data on an unclassified computer), sharing passwords or failure to protect sensitive information, intrusions or break-ins by unauthorized users either from inside or outside the Laboratory, including espionage.

LLNL's Computer Security Council has approved the revision of the reporting requirement in the policy: "Reporting Computer Security Incidents" (P-2316 for unclassified and P-4316 for classified computing environments).

Statement of policy

The revised policy requires that any employee who suspects or observes a computer security incident must report that incident to an information system security officer (ISSO) who will report it to the LLNL Computer Security Operations (CSO). If an ISSO is not available, the employee must report the suspected or actual incident directly to the CSO.

Implementing the policy

After a suspected or actual incident is reported, the CSO will coordinate with the ISSO, the cognizant Organizational information system security officer (OISSO), Safeguards and Security, the SAFE office, the Computer Incident Advisory Capability (CIAC), and other external agencies as deemed appropriate.

All personnel involved are expected to cooperate fully with the CSO in the investigation and resolution of the incident.

Prior to this change, the ISSO (or employee, if the ISSO was unavailable) was not required to report the incident directly to the CSO. Each employee needs to know how to contact the ISSO responsible for his/her computing system.

Your OISSO or supervisor can provide you with this information. The list of OISSOs can be found on the Web at <http://www-r.llnl.gov/cso/OISSO/oisso.html>

David Cooper is Associate Director for Computation as well as LLNL's Chief Information Officer.

ASCI lecture series presents an overview of wavelets

Ingrid Daubechies of Princeton University will deliver the sixth in a series of lectures sponsored by the ASCI Institute for Terascale Simulation on Wednesday, Jan. 24, at 3:45 p.m.

"Wavelets: An Overview, With Recent Applications" explains how wavelets have emerged in the last decade as a synthesis from many disciplines, ranging from pure mathematics (where forerunners were used to study singular integral operators) to electrical engineering (quadrature mirror filters), borrowing in passing from quantum physics, geophysics and computer-aided design. The first part of the talk will present an overview of ideas in wavelet theory, in particular wavelet bases. The second part of the talk will discuss some recent applications.

Daubechies received her bachelor's and Ph.D. degrees from the Free University in Brussels, Belgium, in physics, in 1975 and 1980, respectively. She held a research position at the Free University until 1987. From 1987 to 1994 she was

a member of the technical staff at AT&T Bell Laboratories, during which time she took leaves to spend six months (in 1990) at the University of Michigan, and two years (1991-93) at Rutgers University. She is now a professor of mathematics at Princeton University and is affiliated with Princeton's program in applied and computational mathematics. Her research interests focus on the mathematical aspects of time-frequency analysis, in particular wavelets, as well as applications.

In 1998, she was elected to the National Academy of Sciences and became a fellow of the Institute of Electrical and Electronics Engineers. The American Mathematical Society awarded her a Leroy P. Steele prize for exposition in 1994 for her book, "Ten Lectures on Wavelets," as well as the 1997 Ruth Lyttle Satter Prize. From 1992 to 1997, she was a fellow of the John D. and Catherine T. MacArthur Foundation. She is a member of the American Academy of Arts and

Sciences, the American Mathematical Society, the Mathematical Association of America, the Society for Industrial and Applied Mathematics, and the Institute of Electrical and Electronics Engineers.

The ASCI Institute for Terascale Simulation Lecture Series was established to enrich the intellectual atmosphere of the Lab's large simulation community through the visits of leaders throughout the diverse areas of computation that undergird simulation.

Simulation has become a crucial third mode of scientific investigation and engineering design, along with theory and experiment, and has become especially important to the Department of Energy under the Accelerated Strategic Computing Initiative for fundamental scientific progress and technical decision support. The lectures are designed to appeal to a broad technical audience.

For more information, contact David Keyes, 2-1325, or Terry Garrigan, 3-6209.

Honoring King



SHERI BYRD/NEWSLINE

Area high school students Veronica Tadeo (left), Erica Hewitt and Jason Smart were the winners of the scholarship essay contest, "A Hypothetical Conversation Between Martin Luther King Jr. and Ward Connerly," sponsored by the Association of Black Lab Employees. The students presented their essays as part of ABLE's celebration of King and Black History Month. For additional coverage of Martin Luther King events, see the Jan. 19 edition of *Newsline*.

Lawrence Livermore National Laboratory invites you to

Science 2001:

An Evening Science Series

Medical Applications of the Human Genome

By Dr. Stephen Dilly,
Vice-President of Medical Affairs at Genentech

Expanding understanding of the structure of DNA has made rapid advances possible in the field of biotechnology. What are some of the implications of this work to advance treatments in the health industry?

Jan. 18, 2001

7 p.m.

Livermore High School

Performing Arts Theater, 600 Maple St., Livermore

Rebroadcasting on **CTV** Channel 28

LLNL Public Affairs Office, 925-422-4599
<http://www.llnl.gov/llnl/06news/Community/lecture.html>

Lawrence Livermore National Laboratory presents lectures during the school year to bring important, current science topics to the general public. Public outreach for education is a goal of both the U.S. Dept. of Energy and the University of California. LLNL is operated by UC for the DOE.





NEWS YOU CAN USE

It pays to know people

... with BIG ideas!

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Presenting the LLNL Referral Bonus Program

A Laboratory employee may now receive a bonus award of \$500, \$1,500 or \$3,000 for referring a candidate for employment at the Laboratory.

To receive the award, the candidate would have been interviewed after Jan. 3, 2001, identified the referring employee during the interview process, and be hired into the designated bonus-eligible position.

All full-time and part-time LLNL employees are eligible to participate in the program except for the following: senior management, managers/supervisors within the chain of command of the designated position, search committee members, recruiting & employment staff, and employees covered by a collective bargaining agreement.

A Website has been developed for the program, which includes detailed program rules/provisions, information for participating employees and the listing of bonus-eligible positions.

See <http://www-r.llnl.gov/ERBP>

Human Resources will be conducting workshops for employees who want to know more about the program and available resources for becoming a successful 'recruiter.'

The noontime workshops will be held Jan. 19, Feb. 1 and Feb. 7, noon, Bldg. 543 auditorium.

STARS

Continued from page 1

The results are of special interest because this is the first time scientists have been able to discover such objects in front of the millions of stars seen at the galactic center and our brightest neighbor galaxy, the Large Magellanic Cloud (LMC).

To date, among the thousands of known High Proper Motion (HPM) stars, few have been discovered in the most densely packed regions of the sky, where stars appear to merge together in images because of their extreme density.

"Until now astronomers have been unable to detect HPM stars in the most dense locations because of the extreme density of stars toward the galactic center," said Drake, who works at the Institute for Geophysics and Planetary Physics. "Toward the galactic center, the billions of stars within our galaxy form the bright band in the sky known as the Milky Way."

Another region where the density of stars makes discovery of the moving ones difficult is toward the LMC. To the naked eye, this galaxy appears as a faint nebulous patch in the southern sky. Through a small telescope, the presence of millions of individual stars become recognizable.

Our solar system resides 26,000 light years from the center of the galaxy and rotates once every 240 million years. The great distance to the galactic center means that the slow rotation of the sun has little effect on stars there. However, much closer stars (less than 500 light years) appear to move relative to these distant stars. In order to find HPM stars, Drake looked at images of stars in the galactic center and the LMC taken over seven years.

Using 50,000 astronomical images of 55 million stars, Drake identified the stars that appear to move and measured their motions. From these measurements, he discovered 154 new HPM stars. The yearly motions of these objects are estimated to be accurate to 6 milli-arcseconds, which is equivalent to the width of a human hair seen from a distance of one mile.

These images came from a recent galactic dark matter experiment using the 50-inch Great Melbourne Telescope in Canberra, Australia. During the 1990s, scientists also used the Great

Melbourne Telescope to detect MACHOs (Massive Compact Halo Objects) through the gravitational microlensing of stars. Microlensing is a physical phenomenon that causes stars to appear to shift or brighten when two or more of them lie on the same line of sight.

Over the years, techniques such as astrometry have allowed astronomers to produce a picture of the motions of stars within our galaxy. Astrometry is the branch of astronomy that deals with the measurement of positions and movements. Applying this picture to the motions of the HPM stars discovered, Drake was able to predict that most of these objects likely are located at distances between 100 and 1,000 light years.

However, at present, the motions of these newly discovered HPM stars have been based on the motion measured between just two images. More detailed studies of these stars are necessary to determine how the parallax effect, due to the Earth's motion around the sun, would change the true direction of each HPM star's motion from that observed.

Although many microlensing events have been discovered, astronomers continue to search for them because they can point out properties of the lensing objects, such as planets, that populate our galaxy. Within the next 10 years, NASA's Space Interferometry Mission (SIM) telescope will be launched into orbit. One of the goals of this mission is to use astrometry to determine the masses and distances of the stars causing microlensing events. By finding the HPM stars in the foreground of these dense areas of the sky and predicting their paths over future years, astronomers will be able determine when these stars will pass in front of a distant star to cause microlensing.

The MACHO collaboration consists of scientists from the Lab (Kem Cook, Andrew Drake, Stuart Marshall, Cailin Nelson and Piotr Popowski); the University of Pennsylvania; the Australian National Supercomputing Facility; STScI; the Mount Stromlo Observatory; Bell Labs; University of Notre Dame; UC Santa Cruz; UC San Diego; Universidad Catolica; University of Washington; the European Southern Observatory; the University of Oxford; and McMaster University.

Technical Meeting Calendar

Tuesday
16

UC DAVIS, DEPARTMENT OF APPLIED SCIENCE

"Long-Wavelength Turbulence Measurements in High-Temperature Plasmas,"

by Raymond Fonck, Dept. of Engineering Physics, University of Wisconsin-Madison, 4 p.m., Bldg. 661 (Hertz Hall), room 13 (open area). Refreshments served at 3:30 p.m. for a "meet-the-speaker" session before seminar and at 5 p.m. after the seminar. Contact: Estelle Miller, 2-9787.

Wednesday
17

MATERIALS RESEARCH INSTITUTE

"Nanofractography of Shocked RDX Crystals with Atomic Force Microscopy," by

Jagdish Sharma, Carderock Division Naval Surface Warfare Center. 3:30 p.m., Bldg. 219, room 163 (open area). Contacts: Mike McElfresh, 2-8686, or Miriam Rinnert, 2-7369.

Monday
22

H DIVISION

"Numerical Modeling of Semiconductors (From Atoms to Just Small)," by Fernando Reboledo, Instituto Balseiro and

Consejo Nacional de Investigaciones Cientificas y Tecnologicas. 10:30 a.m., Bldg. 319, room 205 (uncleared area) Contacts: Guilia Galli, 3-4223, or Darlene Klein, 4-4844.

Wednesday
24

ASCI INSTITUTE FOR TERASCALE SIMULATION LECTURE SERIES

"Wavelets: An Overview With Recent Applications," by Ingrid Daubechies, Princeton University.

3:45 p.m. Bldg. 543 auditorium (note change of location; all visitors must be badged). Contacts: David Keyes, 2-1325, or Terry Garrigan 3-6209.

Friday
26

BIOLOGY & BIOTECHNOLOGY RESEARCH PROGRAM

"Life Technologies and the Rule of Law," by Franklin Zweig, Einstein Institute for Science, Health and

the Courts. 1:30, Bldg. 361 auditorium (uncleared area). Diana L. Bradbury, 2-1746.

Thursday
1

MATERIALS RESEARCH INSTITUTE

"On Quantum Effects in Condensed Matter at High Pressure," by Sergei Stishov,

Institute of High Pressure Physics Troitsk, Russia. 3:30 p.m., Bldg. 219, room 163 (open area). Contact: Bill Nellis, 2-7200 or Miriam Rinnert, 2-7369.

Deadline for the next calendar is noon, Wednesday, Aug. 25.

- Address e-mail to tmc-submit@llnl.gov or fax to 2-9291.
- Telephone ext. 2-9709 for information regarding the printed calendar.



NEWS OF NOTE

Drivers should remember 'not to drive too close apart'

Some thoughts on driving safely during winter's poor weather conditions

By Jack Tolley

HAZARDS CONTROL

Each year, St. Louis elementary school teacher Harold Dunn has his young charges study good health and traffic safety. In the resulting essays, examinations and class reports, some of their comments have been hilarious, some beguiling. The title of this article is from one of those reports. Here's another: "Velocity is how fast cars are going when they can no longer be measured in miles per hour." These humorous observations apply to driving in poor conditions at any time — including winter.

I was raised in Ohio where poor driving conditions are common. You could get rains and floods that washed roads out. In winter, you faced icy, snow- and slush-covered roads made more hazardous by fog. In between these events were tornadoes and lightning storms to keep things interesting. I actually had the front of the car I was driving picked up by a tornado.

I can recall shoveling snow for hours, many times, just to get out of my garage. On occasion, when visiting my wife's family farm, we had to trek across fields covered with three feet of drifting snow to get to the farmhouse because the road to it was impassable. One year when I was in high school, it snowed 52 inches in just a few days. Living in Cleveland, which is located on Lake Erie, I gained lots of experience driving in poor weather by simply driving to work.

Believe me, California is much better when it comes to weather conditions. However, we do face occasional poor driving conditions here. So I want to share some tips on defensive driving that will help you when poor weather conditions create hazards for you and your family.

• Driving under the influence of your emotions or alcohol. If things are "getting to you," the last place you

Beware when traveling Corral Hollow Road

If you use Corral Hollow Road at any time, please be extra alert. Drive defensively — as if everyone is out to get you, because it appears they really are.

Site 300 is located on Corral Hollow Road, about a half-hour drive from the Lab. Increasingly over the years, this road has become busier as commuters seek to use it as a shortcut to Livermore and to the San Joaquin Valley communities.

While most of the motor vehicle operators drive safely, there are many who do not. This has resulted in a number of near-miss incidents for Lab employees and others who use this narrow, windy, two-lane

road. Additionally, there have been a number of serious accidents over the years.

Speeding and careless operation of motor vehicles is a common daily occurrence on Corral Hollow, even during non-commute hours. The California Highway Patrol is aware of the problem. Unfortunately, it does not have the staff to adequately police the road and discourage unsafe driving practices. Lab officials continue to investigate ways to respond to this situation with appropriate government agencies and officials. Until definite steps are taken to improve conditions, employees are cautioned to drive carefully.

should be behind the wheel of a car. This is always true, but poor weather conditions further contribute to the hazards. Unchecked emotions, such as anger or anxiety, can cause people to drive impatiently or impulsively, even belligerently. Do not drink and drive. A characteristic of alcohol is that it deludes you into thinking your ability to drive safely is not impaired, when, in reality, your reaction times are dangerously reduced.

• Too much speed. This is the No. 1 hazard of driving during poor weather conditions. Under ideal driving conditions, it takes 305 feet for you to bring a motor vehicle traveling at 50 mph to a complete stop. That's more than the length of a football field. At this speed, your vehicle will travel 55 feet before your brain can react and tell your foot to activate the brakes. So, be sure to slow down in poor weather.

• Think/act time. Ordinary driving requires a space cushion for you to drive safely and respond to unexpected events. These can be simple occurrences such as a bug coming in the window, or the careless action of another driver, both of which cause your

attention to be diverted momentarily. Experts recommend that you always be two to four car/truck lengths behind the vehicle in front of you when driving in city areas, and four to six car lengths on freeways. However, poor weather conditions require you to double and even triple these lengths.

• Proper use of an antilock braking system (ABS). If you have ABS on your vehicle, remember this: You don't pump them. Just hold the brake down and the ABS system will automatically pump the brakes for you. You will feel vibration when they are in operation. An ABS system or pumping the brakes helps you maintain control of your vehicle. If your vehicle skids during poor weather conditions, turn in the direction of the skid to correct or counter it.

• Winter driving. What I call "gentle driving" addresses a number of winter hazards. Think of what you

can face: too much speed for conditions; lack of adequate stop and go traction; stalled and abandoned vehicles; and reduced ability to see and be seen. Other hazards are ice and snow at intersections or ice on roads and bridges — where least expected, such as black ice that often forms in shady areas of roads. Ice and snow at intersections and loss of steering ability are other hazards. Gentle driving helps in all these conditions. Just remember this: Safe winter driving calls on the driver to start gently, drive gently, steer gently and brake gently.

Let me close this article with a few more comments on driving safety from the children in Harold Dunn's class.

"The best way to help keep safety in the car is to act behaviorally."

"After the sudden stop I was found to have several critical bruises. But the bump on my head was probably my best injury."

Jack Tolley writes occasional columns on safety for Newsline.

MACHOS

Continued from page 1

more than 10 times farther than the disk of visible stars. Some of this matter may be in one of many primarily baryonic forms including planets, brown dwarfs, very old low-mass stars, neutron stars and low-mass black holes. They are collectively known as MACHOs.

Though MACHOs emit some light, their level of emission is below present-day detection thresholds. They can be found indirectly by noting the gravitational signature they produce as they interact with other visible objects. One such signature is microlensing. In a microlensing event, a MACHO passes through an observer's line of sight to an ordinary, luminous star. The gravitational presence of the MACHO bends the light from the star, and, acting like a lens, causes a temporary apparent increase in the brightness of the star. The brightened star in a microlensing event is called the source star.

The MACHO project has been monitoring the sky — through the use of the 1.27-meter telescope at Mount Stromlo Observatory in Australia — for microlensing events in a line of sight toward a nearby galaxy, the Large Magellanic Cloud (LMC), for eight years. The LMC provides a convenient backdrop of source stars. Earlier MACHO project results show that MACHOs can account for about 20 percent mass in the Milky Way halo and that MACHO mass is most likely between 0.15 and 0.9 times the mass of the Sun.

Some astronomers, however, have remained skeptical that the microlensing events are actually produced by MACHOs in the halo of the Milky Way, instead speculating that it is faint stars in the LMC lensing other stars in the LMC, which cause microlensing events. To

make these non-dark matter theories for microlensing viable, these models also must include adjustments to the generally accepted structure of the LMC.

These adjustments require different arrangements of the source stars. If dark matter causes the microlensing events, the source stars will be randomly distributed in the LMC. Conversely, if normal stars in the LMC cause the microlensing events, the source stars will be found toward the far side of the LMC. This subtle effect can be detected by taking Hubble Space Telescope images of the microlensing source stars. The MACHO project recently has completed this analysis.

"Our analysis has determined that it is very unlikely that microlensing is due to some strange population of source stars behind the LMC," said Nelson, a University of California at Berkeley graduate student, who works at Livermore's Institute for Geophysics and Planetary Physics. "We can also say that it is somewhat unlikely that microlensing is due to any sort of spherical distribution of stars in a halo around the LMC. The most likely explanation remains that microlensing events are caused by dark matter MACHOs in the halo of the Milky Way."

It is generally impossible to measure the characteristics needed from ground-based data to determine the arrangement of source stars. The ground-based MACHO images taken on the Mount Stromlo Observatory are very crowded, causing several nearby stars in the LMC to blend together and appear as one blended "object" in the ground-based image. Only one of the stars in the microlensed object is actually lensed and thus the ground-based data provides little detail about the properties of the actual source star. To eliminate this confusion, Hubble Space Telescope data of the area surrounding each microlensing event was

obtained. Using a technique known as difference-image analysis, it was then possible to identify the source star of each microlensing event.

Using the brightness and color of the source stars, the LLNL team determined the distribution of source stars in the LMC. They found no evidence that the source stars are not randomly distributed in the LMC.

Additionally, this analysis ruled out with high confidence (99 percent) any model in which all of the source stars are located behind the LMC disk. It also ruled out with some confidence (about 80 percent) models in which two thirds of the source stars were located behind the LMC disk.

Astronomers have long known that most of the matter in the universe is invisible. This dark matter gives off no light, yet can be detected through its gravitational interaction with other luminous forms of matter such as stars and galaxies. The dark matter pervades all space, both within galaxies and in the vast "empty" space between them.

A significant component of the dark matter must be made up of some sort of exotic elementary particle that has yet to be detected. However, a small fraction of the dark matter consists of baryons. Studies show that our universe holds several times more baryons than we can count as visible light in stars and galaxies.

The MACHO collaboration consists of scientists from the Lab (Kem Cook, Andrew Drake, Stuart Marshall, Cailin Nelson and Piotr Popowski); the University of Pennsylvania; the Australian National Supercomputing Facility; STScI; the Mount Stromlo Observatory; Bell Labs; University of Notre Dame; UC Santa Cruz; UC San Diego; Universidad Catolica; University of Washington; the European Southern Observatory; the University of Oxford; and McMaster University.



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AUTOMOBILES

1993 - Mustang GT, loaded, blk w/grey leath, auto, sony 10disc, stock drivetrain, alarm, new brakes, like new, only 60k miles. 925-961-0601

1991 - HONDA Accord EX WAGON AM/FM cass., sun roof, new timing belt, and battery. 1 owner 171kmi. \$5700 925-447-4406

1971 - Ford Econoline E300, 6 passenger Club Wagon 302 V8, auto transmission, \$600.00 or best offer. 925-447-1201

1997 - Dodge Grand Caravan SE 68K, Elect Windows, Doors, Rear Air 2nd Sliding Door, Great Condition, \$13K 209-858-2628

1997 - Camaro Z28, 30Yr. Special Edition. Excellent condition in/out. \$15K or B.O. 209-832-7539

1994 - Chrysler Town & Country Mini Van - 3.8 liter V-6, Auto, AC, AM/FM cassette, leather, roof-rack, excellent condition, 85.6K miles, \$8499 OBO. 925-447-0383

1991 - Toyota 4Runner- 130k miles, good cond, 4WD, A/T, A/C, PB, PW, CD, tow package, roof rack. \$8995. Engine recently rebuilt by Toyota. Walnut Creek. 925-942-3670

1989 - Jeep Cherokee Limited, 108k mi, 4x4, trailer pkg, all power, A/C, ABS, leather, upgraded stereo, good condition. \$5,900/OBO. 925-449-8849

1989 - Jeep Wrangler, Lift and Chrome packages, new tires and seats, bikini and full top, alarm system, AM/FM Cassette with oversized speakers, \$7500/OBO 925-443-7480

1997 - Honda Civic EX Coupe, Fully Loaded, AT, A/C, CD, 65K miles, \$12K, 209-598-3648

1996 - White 4Runner, CD, moonroof, warranty, 2x4 manual trans., tinted windows, keyless entry alarm, great condition, moving-must sell, \$14,500 OBO. 925-736-7507

1988 - Camaro, V8/305, AT, AC, cruise, 60K on factory new engine, original owner, new alternator and battery \$3500 925-447-8613

1990 - Nissan Maxima SE - Loaded, power windows/locks, moon roof, leather. White w/Dark Grey interior. Great condition. Must see. \$2950 925-634-8658

1997 - CHRYSLER Town & Country Lxi Minivan, V6 3.8 Liter, Mileage 64,000, transferable extended warranty, all options, Excellent condition \$18,200.00 Best Offer 925-519-4084

1993 - Pontiac Grand Prix. A/C, cruise, AM/FM/Cassette. Excellent condition. \$3950. 925-485-1988

1991 - One owner charcoal grey Honda accord LX, 2 door, 75000 miles. Excellent condition. \$7000. 925-447-8914

1950 - plymouth deluxe, 4dr, lost storage, must sell some new parts, good tires, started resto, needs to be finished, very little rust \$500/bo 925-846-8533

1985 - Chev Celebrity 4dr, V6 automatic, new tires, mileage 162K, \$1,500. or BO. 209-836-2004

1991 - Lincoln Continental; excl cond; 117K well-maintained miles; CD, AM/FM cass; phone; loaded; rebuilt at 100K miles. \$5500/OBO. Must sell. 925-829-6203

1999 - Pontiac Montana, White, Tinted Windows, am/fm/cd, roof rack, power sliding door; seat; locks. exc. cond. \$16,500/obo 209-823-0454

1996 - Ford Bronco, XLT, tow pkg, 4WD, AT, AC, white leather, clean, alloys, 91K, \$13,000 o.b.o. 925-447-7780

1985 - Toyota Camry LE - \$3100, 120K mi, PS, PB, PW, PMirrors, PLocks, AT, Cruise, Alloy Wheels, Moonroof, Cover, Roofrack, Tirecables, Maintenance records. 925-443-5086

1988 - Acura LED. EXCEL Body/INT 120K Miles Runs Great, NEW Clutch, CD, ETC -- \$4500 925 462 7903 925-462-7903

AUTOMOBILE ACCESSORIES

Smittybilt rollbar for CJ Jeeps and maybe International Scouts, Very good cond. \$50.00 or make offer 925-455-1959

Chevy truck factory 16x8 alloy wheels set of four \$100/OBO. Little Rocker fifth wheel hitch and mounting rails \$100/OBO. 925-846-6057

Tommy Lift for Full size pickup (1000 lb) - Used but in great shape. \$900 209-545-1932

Aluminum rims, 4 lug Ford, one 13 in. and two 14 in. sets, all in good condition. Prices start @ \$50 per/set 925-634-8523

BICYCLES

TANDEM Bike Schwinn 21 speed, mountain style with road tires. very clean, well maintained \$500.00 925-634-0423

Road bike with accessories Mountain bike only used once both bikes in excellent condition Call for pricing 925-833-9260

Womans Road Bike by Terri Bicycle Company. Fits a small woman, 5 foot 2 inches and shorter. Used twice. Paid \$700; sell \$300. 925-443-2752

BOATS

Jack plate, brand new Slidemaster, 6 inch, rated for any V6; comes with 4 SS mounting bolts \$150. 925-443-2114

Merc 700(70hp) outboard motor with all controls, good condition, boat dry-rotted, last run 3 yrs. ago \$750/bo 925-846-0717

ELECTRONIC EQUIPMENT

TVs - 27in RCA XL100 console \$55, 19in RCA XL100 \$25 925-449-1481

Uniden Bearcat 300 channel, 14 band, Trunk-tracking radio scanner. New, never out of the box. \$200 925-455-4484

Mac G-3 Computer with monitor, keyboard, mouse, 56K modem. Has system 9 installed. \$150 209-957-3289

Sansui 5500 Stereo AM/FM Tuner/Amp, 220watts, exc cond., orig manual. Sansui QS-500 4 channel rear amp, 120watts, exc cond, orig manual. \$100 for both. 209-423-9125

HP DeskJet 500 Printer, \$40, 925-455-0836

HP Plotter with rollfeed. Manual & Supplies included. Works Great \$500 925-427-0233

Five Nintendo 64 Video games. \$40. 209-462-8077

56k modem for Mac. Like new. Used very little before I switched to a pc. Cost \$90 new. Sell for \$50. 925-606-7389

SPEAKERS - Paradigm 5seMkII. Black finish solid wood. Great sound. \$200. 925-829-1352

GIVEAWAY

Rototiller - Sears Craftsman. Ideal for small garden. Pick up in Livermore 925-373-0137

Two Nanday Conures need a good home. One 7 year old hand-fed male, and one (unknown age) female. Would prefer a home together. 925-443-4643

Male Cockatiel, 2 yrs old, hand fed/hand tame pet. Bird breeders closing down, must find good home. Must have own cage. 925-449-3489

Wall mounted glass shelves(2) with Mirror (42 in. x 42 in.). Removed from Sunset Redwood Model Kitchen area. 925-443-7082

Concrete slabs for driveway, patio or other. 6 slabs measuring 62 x 54 x 3 inches each. Approx. 300 lbs apiece. No cracks! U haul. 925-371-8201

Oscilloscope, Heathkit #IO-103. Older model, but sweep to 10 MHz. Was working, then quit suddenly. No manual. 925-443-5663

Glass panels - Two at 4ft x 8ft with aluminum frames 925-443-5565

HOUSEHOLD

Bed, King set, Brass headboard and frame. Includes shams, comforter, skirt and king-size linen. \$250.00 925-828-2609

Sturdy wooden end tables with beveled glass tops. \$30/obo for both. TV stand with glass doors and storage space inside. \$15/obo 209-836-9082

Refrigerator/freezer. Side-by-side. Off-white. Good condition. \$200 925-443-5213

King Size Brass Headboard, Excellent Condition, \$75, 925-455-0149

10 in table saw w/spare blades \$150. 3.5 hp front tine rto tiller \$50. 209-957-3289

Soma Waterbed parts, mattress and water tubes. Asking 100.00 510-537-5696

Thomasville Oak Entertainment Ctr., 58inches wide, 23inches deep, 53inches high. Exc. Cond. 11 years old. \$325/offer. 209-423-9125

Bedroom set, girls, white Scandinavian style. Bed, mattress, dresser, desk, chair and nightstand. \$550. 925-947-6630

Oak student desk. Great condition. 3 drawers on the right and 1 in the middle. Includes a glass top- \$100. Padded chair- \$15. Call after 4:00 pm 925-449-8131

7-drawer wood desk 22x52 (not computer desk) excellent condition \$175, Framed painting of valley scene by local artist Norma Webb \$175 925-447-8613

Couch, loveseat, chair, and ottoman. Full set. Beige in color. \$500 OBO. Excellent condition. 925-443-2808

Crib - Childcraft, natural maple, mattress included. High quality, excellent condition. \$200/b.o. 925-454-0877

Magic Chef radiant range, self-cleaning oven, good condition, \$100. 925-455-0335

Dryer - Kenmore newer electric model with new heating element - \$100, Washer - Older Kenmore, but good working condition with no leaks - \$50 925-443-5565

Sectional couch, 8x5.5 w/2 ottomans, peach/green \$350. Rug 6.5x10, navy/brown/cream \$35. Coffee table 3 ft octagon w/glass top \$25. 925-455-4896

2 Wood Bar Stools, swivel, engraved design on seatback, good condition. Set of 2 for \$75. 925-456-7972

ENTERTAINMENT center - Holds 36 inch TV, Smoked glass doors, CD and Tape Storage, VCR/DVD Shelf. Solid Wood, Oak Finish, On

Casters. \$75. 925-829-1352

Refrigerator, Kenmore 18 c.f., white, glass shelves, ice maker, 5 years old, excel condition. \$500 925-837-6562

Electric Bar-B-Que Grill - New/ Never used still in box. \$75 209-545-1932

Solid Oak desk w/file drawers \$250, Large oak entertainment center \$100, book case \$50, ALL b/o taken. 925-634-0778

Crib, 4-drawer dresser, and 3-drawer dresser/changing table, good condition \$100. Two port-a-cribs, small \$30, large \$50. 925-829-5126

Electronic typewriter, Panasonic model KX-R330, with spell checker. \$65.00 925-447-6670

Sears Washer and Dryer, White, in good condition. \$150 for both. 925-634-0649

Perego Milano reversible stroller with removable basket and rain boot. \$325 new, now \$50. 510-733-9802

King size mattress, foundation, frame, Sterns and Foster, exc. condx, \$200; GE Potscrubber dishwasher, good condx, \$75; desk, \$20. 510-886-4610

Bed frames and oak headboards, two, twin size. Matching oak dresser. \$500. 925-443-2752

Black Iron Daybed with Basset Deluxe Mattress, Good Condition. \$125.00 o.b.o. 925-373-3429

Electric Twin Bed. V.G. cond. \$60.00 925-373-9540

Stove/Whirlpool/white, continuous cleaning, gas stove 30 in. stand alone, good condition. \$175. 925-516-8712

Refrigerator-Freezer w/ice maker. Admiral 21 cu ft, almond color, 3 yrs old, excellent condition. \$375. 925-516-8712

MISCELLANEOUS

Furnace, Heil, Natural Gas, 105,000 BTU, down flow. 2 Year money back guarantee \$150. 925-447-6670

Large Square Coffee Table paid over \$300 must see to appreciate, sell for \$100 209-545-1932

70s & 80s Rock LPs, approx. 70 records, list available, \$50. Lawn Mower Motors, 3 HP Briggs & Stratton, nearly new, \$25 each obo. 925-455-0149

Baby changing table. Natural wood finish. Excellent condition. \$50.00 925-373-4888

Four counter-top Vending machines, \$200.00 ea. with four industrial tables at 25.00 ea. obo 510-537-5696

Handicap Scooter Lift (Silver Star) fits class 2 hitch, key operated, swing away access, folds up when not in use. \$1700 OBO. 925-373-1154

Seasoned oak or almond firewood 1/4 cord. 925-447-4611

Portable message chair, never used, Portal Pro, black powder coated. \$599 new, only \$199. 925-648-8008

Blood Pressure monitor, one step auto inflation, like new, \$50, Samsonite 24 inch hardside suitcase \$35, toaster oven \$20 925-447-8613

Boy/Girl 0-3 yrs. clothes, Old Navy/Gap/Gymboree brands. Exerciser, car seats, toys, oak changing table. Excellent condition and prices. 209-832-2862

Drapes, 10x7 (2 panels) and 8x7 (1 panel), cream w/decor walnut rods \$125. Chandelier, brazilian crystal, contemporary \$35. 925-455-4896

CD PLAYER - Technics SL-PG100 (single disc). Has Peak Level Finder for easy tape recording. Programmable and Randomizer \$40. 925-829-1352

Crib, dresser, dresser/changing table, good condition \$100. Two port-a-cribs, small \$30, large \$50. 925-829-5126

Large patio table/w 4 chairs & umbrella \$200 Fireplace screen with glass doors \$50 925-833-9260

Woodsplitter. Duerr-20T, mobile tow. Used approx. 30 hrs. \$850.00 OBO 209-239-3072

SKIS--ATV DYNASTAR 180cm + Poles; Brand New \$175. Bindings-LOOK TX7; Brand New \$60. 925-484-0475 or 925-484-4214

Stair Stepper, Air Gometer, Diversified Products, very good condition, digital controls, pulse monitor, with user manual \$50 925-828-7362

Air compressor, 3/4 hp, 120 V, 7 gal. tank, \$75; poly tool box, cross bed for FS PU, \$25, dog shipping crate, large size, \$25. 925-455-1183

MOTORCYCLES

1985 - Honda ATC 350X 3 wheeler, new tires & bars, runs great, registered til 2002, plus 4x8 trailer with box, new lights, new registration \$1500/bo 925-846-8533

MUSIC INSTRUMENTS

Fender headphone amp: settings include clean, overdrive, flange and chorus. Use for quite practice or as a preamp for recording. \$30/obo. 209-836-9082

Drum Set inc. bass drum, snare, floor tom, 2 toms and Hi-hat. Asking \$200.00 obo 510-537-5696

PETS & SUPPLIES

Underground electronic pet fence new never used \$50 925-455-9414

POODLE-AKC mini male. 4 yrs, shots, neutered. Great personality, high energy. Needs stay home owner. Free to good home. 925-294-8401

Free Lab/boxer(?) mix, female, approx. 7 months, 45 lbs., all shots, housetrained, loves cats and kids, needs yard to run. 925-362-4974

BIRD CAGE: Like new. 32x23x41in, height=66in, bar-spacing=1in. Dometop w/skirt. Lead-free porcelain crocks. MIG welded steel. White finish. \$300 obo. 925-454-8911

Shepherd puppy, 2-mo old female, has had shots, good with kids, Free 209-892-5159

Free dog to good home, pit bull, uncut, ears cropped, tail not, friendly, good with kids, not good with cats, 2 yrs old, moving to no pets. 925-443-2085

12 yr old Ch. Appaloosa G. Loves cattle and arena work. Not good trail horse. Great w/kids. \$2500/OBO. 209-327-0881

RECREATION EQUIPMENT

Portable basketball hoop with clear backboard, excellent condition, \$150, 925-484-4099

Nordic track \$35, cardio glide \$25, 15 speed mountain bike brand new! \$75 925-447-4611

1995 Kawasaki 450 jet ski needs some work also includes double trailer, body in good shape \$600.00 209-835-4790

WEIDER Weight Bench Includes incline bench press, leg curls & extensions, overhead pulldowns,

DIRECTOR*Continued from page 1*

graphs, the perception of prejudicial stereotyping, and bureaucratic burdens imposed by many different groups currently involved in management oversight.

These external and internal drivers have had major impacts on our workforce. Over the past several years, we have initiated several efforts, mostly by our Human Resources organization, to implement new policies that enhance our recruiting and retention status; e.g., hiring bonuses, "hot skills" salary increments, expedited hiring processes, Employee Referral Process Program, etc. Recently, various groups and organizations have focused considerable effort on these issues. I have asked Deputy Director Bob Kuckuck to consolidate all recruiting/retention efforts and develop institution-wide recommendations.

Diversity

During the past few months, I have met with many employees, including the Lab's Employee Network Group leaders and various Asian Pacific American (APA) employee groups to better understand their concerns. This dialogue is critical to our understanding of the issues and our ability to effectively take advantage of the increasingly diverse

workforce of the 21st century. Additionally, we must constantly reinforce the message of the April Diversity Stand-Down; i.e., racial profiling or any form of discrimination will not be tolerated.

I expect to introduce some near-term measures into our system, as well as devoting the entire year to develop and implement a long-term strategy. New measures will include such things as incorporating diversity and avoidance of racial profiling as substantive elements of the new employee orientation process, enhancing these emphases in supervisory and management training and performance, and systematically assessing our progress, particularly in creating and enhancing career growth and opportunities.

Employee survey

Finally, I know that each of you has experienced some aspect of these pressures on our workforce and work environment. In order for us to make positive impacts, we must know what you think about your work environment and quality of life at the Lab. Also, at the same time, we want to continue to follow up on the Lab diversity survey conducted five years ago. You gave us your feedback on what you thought about the Lab's environment at that time. You told us what needed improvement and what you liked about working at the Lab. We took that input

and made a number of changes.

We will be working with various groups and forums around the Laboratory, and will be developing a new, comprehensive survey that will help define our path forward. The new survey will have diversity as a significant element, but will focus more broadly on all aspects of the present and desired future work environment at the Lab. We will have this survey to employees by spring, the results digested soon thereafter, and a full set of recommendations implemented within the calendar year. When this survey comes forth, I hope you will devote serious thought to it and provide us with your views.

We need to maintain our highly skilled workforce as we prepare for the future. I want to ensure that the Lab is seen as a good place to work, "an employer of choice." Over the next six months, much effort will be put into these four areas I have just discussed. We need your perspective to succeed. I also welcome your individual input and suggestions. An e-mail address, workforce2001@llnl.gov, has been established to provide a mechanism for you to communicate your thoughts to me in confidence.

I look forward to working with you on these issues.

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butterfly, etc. and 100 lbs. of weights. Exc. cond. \$75 925-456-7972

Motor Home, 31 ft Winnebago Superchief, well maintained, 50k miles, \$15,000 209-823-4034

Skis Kastle TCX03 205cm w/Geze G77 bindings, Raichle 787 mens sz9 \$225. Fischer TC 180cm w/Marker N26 and Raichle 190 womens sz8 \$150. both like new. 925-513-3280

NIKE soccer cleats size 8, Nike turf shoes, indoor, size 8. both almost new \$15.00 each 925-634-0423

Cross-country skis. New, never used. Any reasonable offer accepted. 209-836-5764

1995 Beaver Patriot 37ft motorhome. Well-cared for. 300hp Cummins, PAC brake, inverter, satellite, solar. 55K miles. Pictures avail by email. \$97,500 209-847-8264

Soloflex exercise bench \$100.00 925-846-3592

Burton snowboard bag. Excellent condition, barely used. \$20. 209-365-0412

Twinner jog stroller; \$100 OBO 925-484-8447

RIDESHARING

Express your commute, call 2-RIDE for more information or visit the web site at <http://www-r.llnl.gov/tsmp/> for more information

Modesto - Commuter Partner Wanted, Lab Hours 8:00 a.m. till 4:30 p.m. M-F. From Vintage Fair Mall. 209-529-0431, ext. 2-8828

San Jose & Fremont-Mission - Space is available from San Jose and Fremont-Mission areas. Work hours: 7:30-4:30. 408-238-1909, ext. 3-3057

Oakland-Monclair District - SEEKING New Riders; relax, enjoy your commute, come ride with us! Dependable, prompt and courteous service. 510-834-6405, ext. 4-5173

Discovery Bay - Looking for additional driver/rider from Discovery Bay, 7:30-4:15. 925-634-5754, ext. 3-5481

SERVICES

Handyman Service, repair or replace most anything. Free esti-

mates. Sprinkler repair is the winter special! 209-847-6623

Roofing, 28 yrs experience, fully insured 925-454-9200

Hauling Service. Estate cleanouts, Attics, Garage, Shed & Barns. Misc... 925-373-9540

Professional Tree Stump Removal & Sprinkler Repair FREE Estimates 925-443-6010

TUTORING in high school and college chemistry and math. 925-443-2095

SHARED HOUSING

Pleasanton - 2 bedroom 1.5 bath townhouse to share w/24 yr. old woman. A/C, washer/dryer, 2 carports. No smoking/pets. Your rent = \$600. 925-484-0477

Livermore - Furnished room in 3bd/2bath home, 10 min from lab. Full amenities. N/S, Fragrance free. \$600 including utilities. 925-456-9231

Livermore - Unfurn. Room w/private bath in large South Side home. Use of kitchen, laundry. M/F, N/S, N/P. Utilities included. \$475/mo + dep. 925-447-6070

TRUCKS & TRAILERS

1992 GMC 1-Ton Dully extended cab. Excellent condition. New tires and shocks. One owner, complete service records. \$14,000/OBO. 925-634-6199.

1992 - Ford XLT PU with ext cab and bed lid, pw/ps/pb clean. \$5000 or poss trade for sedan. 209-544-2236

Set of 35 inch tires. \$350.00 925-513-0412

1971 - Chev 1/2T rebilt 350 & AT, long bed, good condition \$2,000 925-462-6246

1980 - GMC Short bed Pickup 350, AT, PS, PB, AM/FM Cass-CD Changer, Camper Shell. Damage to the passenger fender and door. \$750 OBO 209-835-6556

1997 - Flatbed Trailer, 6ft 8in. x 12ft single axle. Holds 3 quadrunners or snowmobiles. Used three times, like new. \$950.00 or b/o 925-447-4364

1987 - Itasca Sunflyer 22ft Class A Motorhome. Very good condition. Lots of extras \$10,750. 925-455-

8980

1989 - Ford Ranger 4X4, v6, 5-spd, extended cab, camper shell and carpet kit, recently rebuilt engine, \$4200 209-823-4034

1994 - Ford Explorer - Eddie Bauer Edition, Green/Tan, 2WD, Leather, Power everything, CD, roof rack, 116k mi, \$7,900. 925-560-6343

1985 - 1985 Ford F250 4x4 6.9 Diesel runs excl, new paint well maintained. C 209-239-2812

1993 - Dodge 3/4 diesel turbo long bed extended cab. And 1993 29 ft. King Of The Road 5th wheel, with slide-out must see 24k O.B.O 209-892-1325

1998 - Itasca Spirit Motorhome, 22 ft., 454 Vortex Chevy, 30K miles, AC, roof air, gen., micro., double reffrig, clean, \$29,000 o.b.o. 925-447-7780

1982 - Toyota 1.25 ton custom-built flatbed, dual wheels, rack, hoist, new suspension and brakes, custom paint. Runs good. \$2950/b.o. 209-836-5764

1990 - Ford F150 XLT Lariat 4X4, automatic, V8, camper shell, loaded. Pampered. Excellent Cond. \$6800 obo. 925-373-2832

1991 - GMC Sierra extended cab 4x4 1/2 ton 350 V8 auto, shortbed w/liner and shell. Silver. New tires. Top condition. \$8,500. 925-443-4389

1988 - GMC MiniVan, V8 Automatic, Air, Power, Cruise, Trailer Hitch \$2700 OBO Tracy 209-858-5807

VACATION RENTALS

Kailua Kona, Hawaii - Oceanfront with oceanview of Keauhou Bay, fully furnished 1BR/1BA condominium. Pool, BBQ and relaxation. Low LLNL rates, year round reservations. 925-373-0137

Tahoe City - 3 bdrm, 1-1/2 ba townhse, all amen. Close to ski resorts, spa, slps 6 adults. h\$300 wknd, \$650 Week 925-672-5130

SOUTH LAKE TAHOE - 3 Bedroom 2Bath Chalet, nicely furnished, all amenities, quiet area, close to all skiing. Few weekends left, Reserve Now! 209-599-4644

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. Low LLNL rates for year-round

reservations. 925-449-0761

Twain Harte - Fully furnished. 2bdr 2full bath. washer, dryer, cable TV, VCR, microwave, dishwasher and more. close to Dodge Ridge ski area. \$150/wknd \$300/wk 925-443-2808

MAUI spacious south Kihei oceanfront condo: ocean sunset view, beautiful white sandy beach, snorkeling, whale watching. Nearby golf. Low rates. 925-846-1459

Sea Ranch - Oceanview home. No smoking. No pets. Adults only. 2BR(KQ)/2BA 1700sqft. Hike. Bike. Whale watch. Kayak. Swim. Tide pool. 925-443-5086

Pinecrest - Cabin available near Dodge Ridge skiing. 3 bdrm/2 bath, fireplace w/wood, microwave, pool table, level cleared access to covered parking, \$195/wknd 925-449-5513

WANTED

Wanted: Macintosh Stylewriter II printer. 925-485-4321

WANTED: old wind up phonograph all or parts. Also interested in anything from 1950s or older 925-449-0388

Host families for Japanese exchange students in the Modesto/Oakdale

area for one weekend in March. C09-527-0495

Used recumbent bike wanted. Consider anything under 500 dollars. 925-373-3146

Person with carpet installation experience to change carpet in home 925-447-5194

WANTED: New Year/New Resolution. Looking for Nordicttrak at a reasonable price. 925-513-1411

Monitor, Small for PC. Have you upgraded? I need one for a dorm room. 925-447-3307

Wanted someone with FFL to handle a mail-order for me. 925-876-1046

Clean dirt wanted 925-447-7780

Wanted 5 hp horizontal shaft gas eng. Working preferred. 925-449-4262

Bosch universal mixing machine, ask for 925-846-3592

Gazebo, will take down and haul away. Needs painting or work, okay. 209-892-6186

Daycare for 8 month old, Tues, Wed, Thurs. 8-5 PM, prefer location close to Lab. 925-606-0755

Wanted: Stationery exercise bicycle. Julia Child videos - The Way to Cook. 925-454-1694

Guidelines

Newsline is not responsible for any errors contained in the classified ads. It is up to the employee to proofread his or her ad to make sure it contains the correct data, including the phone number.

Employees are reminded that only car- and vanpool ads may contain Lab extensions. E-mail addresses are not allowed.

Due to space limitations, *Newsline* cannot run ads that are submitted in all capital letters. "Personals" ads are not permitted either.

Employees may submit one ad per category, but may not include the same ad in more than one category.

Ads may only be submitted through the Employee Ads Web Services site <https://www-ais.llnl.gov/newsline/ads/>

Employees are responsible for ensuring the content of their ad is accurate.



THE BACK PAGE

BRIGHT LIGHT

Continued from page 1

Darrow and Natasha Zaitseva and chemists Joe Satcher and Doug Cary, with the Bright Light Award for its work developing an implantable device to monitor glucose levels in diabetes patients. The Livermore team is one of five research groups honored nationwide for its work on a recent consumer-oriented innovation.

Lane, who is associate program leader for Livermore's Medical Technology Program, and the team have been working on the biomechanical pancreas to manage diabetes for more than five years. Through the Lab's work and a partnership with MiniMed Inc. of Sylmar, the biomechanical pancreas would work in both Types 1 and 2 diabetes patients.

A sensor would be imbedded under the skin of patients to help them constantly maintain near normal glucose levels, an extremely difficult task using current therapeutic methods. The sensor would signal an insulin pump that administers insulin, when needed, to the patient to control his or her glucose level.

An estimated 16 million Americans suffer from diabetes. In 1998, diabetes was responsible for the deaths of 200,000 Americans, making it the third leading cause of death by disease in the United States.

"Even with the best treatment protocols, diabetics have, on average, more than the normal amount of glucose in their system... after many years, this can result in stroke, heart disease, kidney failure, blindness and amputations," Lane said.

Lane said the biomechanical pancreas will help eliminate the pain and inconvenience of testing and injections that diabetic patients go through in a given day. Though it's still in an early developmental stage,



MARCIA JOHNSON/TID

The Bright Light winners, from left: Doug Cary, Tom Peyser, Robert Sanner, Steve Lane, Natasha Zaitseva, Anne Escaron, Robert Glass, Joe Satcher, Robert Maxwell and Bob Reibold. Not pictured are Glenn Fox, Chris Darrow and Karen Lauer.

Lane said he hopes the device will eventually eliminate the risk of long-term maladies that affect diabetes patients.

During the ceremony Monday, in a taped response, Secretary of Energy Bill Richardson said the Bright Light awards are given to research groups that make up "the best science that the Department of Energy has to offer during the last two years.

"It's a showcase and framework for new discoveries."

The Bright Light Award is selected by a panel of DOE citizen judges, who choose innovations from among 23 discoveries or innovations hatched between 1999 and 2000. The innovations must demonstrate a

benefit to the American public, be a contribution to U.S. competitiveness in the global marketplace and have the potential for significant future growth.

"We are extremely proud that DOE has selected one of the extraordinary achievements made by the Laboratory's Medical Technology Program team for the Bright Light Award," said Jeff Wadsworth, deputy director for Science and Technology. "This award proves the Laboratory continues to make significant contributions that benefit the quality of life."

The Bright Light Award is part of DOE's Energy 100 list, which honors 23 years of the best scientific and technological accomplishments the Department of Energy has to offer since the department was created in 1977. The achievements were nominated for review by DOE lab, program and field offices. A panel of citizen judges evaluated the achievements

based on consumer orientation, whether it saves money and its ability to improve American quality of life.

Deputy Secretary of Energy T.J. Glauthier said the work by the Livermore team would help "diabetes patients lead more normal lives."

Glauthier said DOE is trying to make it easier for private companies to partner with its laboratories so that new science and technology can become more widely used.

Medical device research in LLNL's Medical Technology Program is partially funded by DOE's Medical Sciences Division.

CANCER

Continued from page 1

what we're really excited about."

The device is expected to be commercially available by 2003. Eventually, the "Smart Probe" also is expected to be used on prostate, lung, colon, cervical and brain cancer patients to detect malignancies and deliver and monitor treatment.

The first human studies using the device are expected to begin this spring at sites to be selected in Northern California. "Physicians have been seeking a way to acquire more specific information about a suspected cancer site before performing a biopsy or surgery," said Dr. Neil Gorrin, assistant chief of surgery at Kaiser Permanente Medical Center in South San Francisco.

"The 'Smart Probe' not only is less invasive, but it provides several specific measurements of known cancer indicators in real time, which will improve our chances of making the right diagnosis and treatment plan for the patient," Gorrin added.

Bill Goldstein, principle deputy AD for Physics and Advanced Technologies, said, "This project is an exemplar of the many projects at the Lab that exploit unique laboratory capabilities and technologies to improve the quality of people's lives. Livermore laboratory places a very high value on its work in medical technology research. It's one of the core missions of the Laboratory to advance bioscience to improve human health. Partnering with the private sector on medical technology is one of the best ways for us to get our capabilities to those who really need them."

Goldstein also noted that the medical technology projects play an important role in recruiting and retaining scientists at the Lab, and that the same scientists working on new medical technologies also work in the national security programs.

Fewer unnecessary biopsies

Breast cancer is the second leading cause of death among women in the United States. Last year in the

United States, 182,800 women were diagnosed with breast cancer and more than 40,800 died of the disease.

In the United States each week, approximately 16,000 women undergo unnecessary, surgical breast biopsies on suspicious tissue that turns out benign. In addition, physicians miss about 4,600 cases of breast cancer each week during physical examinations and mammogram reviews.

"By using the BioLuminate 'Smart Probe' before biopsies are performed on suspicious lesions, many unnecessary surgeries can be eliminated," Hular said. "Not only is this a great benefit for the patient, it also has the potential to save the U.S. health-care system over \$2 billion annually."

Cancer indicators measured in real time

Once a mammogram or physical exam has detected a possible malignant lump, "Smart Probe" is inserted into the tissue and guided to the suspicious region. Sensors on the tip of the probe measure optical, electrical and chemical properties that are known to differ between healthy and cancerous tissues. The "Smart Probe" can detect multiple (five to seven) known indicators of breast cancer. Tissue measurements are made in real time in both normal and suspect tissue.

"Smart Probe's" sensors begin gathering information the moment the probe is inserted into tissue. Computer software compares the real-time measurements to a set of known, archived parameters that indicate the presence or absence of cancer. The results are displayed instantly on a computer screen.

"The key technology and experience that Lawrence Livermore Lab has to offer will allow the 'Smart Probe' to be much smaller than first conceived, and acquire data more accurately," said Luiz Da Silva, the Lab's associate Medical Technology Program leader and primary investigator for the "Smart Probe." "In addition, we will have the capacity to add additional measurements if necessary."

Human trials to begin this spring

Lawrence Livermore has signed a research and

development agreement with BioLuminate to use the Laboratory's propriety optical imaging and probing technology to develop "Smart Probe" for all cancer detection applications.

BioLuminate and Livermore researchers are designing and fabricating the first "Smart Probe" prototype.

"I see this as the first major step in 20 years toward finding a technology that can pinpoint whether a tumor is malignant or benign," Gorrin said.

BioLuminate, Inc. is a private San Jose startup firm that is developing the "Smart Probe" in collaboration with LLNL and NASA Ames. The company has an exclusive license to NASA's "Smart Surgical Probe" technology for all cancer applications and has the exclusive rights to develop LLNL's optical imaging and probing technology for all cancer detection applications.



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